

Appl. No. 10/050,347

Amendments to the Claims

Claims 1-28 (Cancelled)

29. (Currently amended) A method of forming a transistor, comprising:

forming a gate oxide layer over a semiconductive substrate, the gate oxide layer comprising silicon dioxide; the gate oxide layer having an upper surface and a lower surface;

exposing the gate oxide layer to activated nitrogen species from a nitrogen-containing plasma to introduce nitrogen into the gate oxide layer and form a nitrogen-enriched region, the nitrogen enriched region being only in an upper half of the gate oxide layer;

thermally annealing the nitrogen within the nitrogen-enriched region to bond at least a majority of the nitrogen to silicon proximate the nitrogen; the nitrogen-enriched region remaining confined to the upper half of the silicon-oxide-containing layer during the annealing;

~~forming at least one a~~ forming at least one a conductive layer on and in direct physical contact with ~~over the gate oxide layer; and~~

forming source/drain regions within the semiconductive substrate; the source/drain regions being gatedly connected to one another by the conductive layer.

30. (Original) The method of claim 29 wherein the nitrogen-enriched region is formed only in the upper third of the silicon-oxide layer by the exposing.

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31. (Original) The method of claim 29 wherein the nitrogen-enriched region is formed only in the upper third of the silicon-oxide layer by the exposing and remains confined to the upper third of the silicon-oxide containing layer during the annealing.

32. (Original) The method of claim 29 wherein the layer is maintained at a temperature of less than 400°C during the exposing.

33. (Original) The method of claim 29 wherein the plasma is maintained with a power of from about 500 watts to about 5000 watts during the exposing.

34. (Original) The method of claim 29 wherein the exposing occurs within a reactor, and wherein a pressure within the reactor is from about 5 mTorr to about 10 mTorr during the exposing.

35. (Original) The method of claim 29 wherein the exposing occurs for a time of less than or equal to about 1 minute.

36. (Original) The method of claim 29 wherein the annealing comprises thermal processing at temperature of less than 1100°C for a time of at least 3 seconds.

37. (Currently amended) The method of claim 29 wherein the conductive layer is a first conductive layer and further comprising forming a second conductive layer over the first conductive layer. ~~formed on the gate-oxide.~~

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38. (Original) The method of claim 29 wherein the conductive layer is formed after the annealing.

39. (Original) The method of claim 29 wherein the source/drain regions are formed after the annealing.

40. (Original) The method of claim 29 wherein the conductive layer and source/drain regions are formed after the annealing.

Claims 41-47 (Cancelled).